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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,647	11/06/2002	Chih-Feng Sung	8834-US-PA	5982

31561 7590 09/29/2004

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE  
7 FLOOR-1, NO. 100  
ROOSEVELT ROAD, SECTION 2  
TAIPEI, 100  
TAIWAN

EXAMINER

NGUYEN, JENNIFER T

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 09/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/065,647

Applicant(s)

SUNG, CHIH-FENG

Examiner

Jennifer T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo (Patent No.: US 6,777,888) in view of Troxell (Patent No.: US 5,177,406).

Regarding claim 1, referring to Fig. 1, Kondo teaches a driving circuit design for a display device having a plurality of pixels with each pixel including a driving thin film transistor (M1) and an organic light emitting diode (1) (col. 6, lines 28-60).

Kondo differs from claim 1 in that he does not specifically teach each pixel receiving an identical data voltage; and modifying the driving current generated by the driving thin film transistor through the adjustment of the width/length ratio of the driving thin film transistor so that the luminance of red light emitted from a red organic light emitting diode, the luminance of green light emitted from a green organic light emitting diode and the luminance of blue light emitted from a blue light emitting diode are in such a ratio that white light is produced and full coloration is attained. However, referring to Figs. 2-5, Troxell teaches each pixel (10) (Fig. 2) receiving an identical data voltage (i.e., 12 V) (col. 12, lines 25-27); and modifying the driving current generated by the driving thin film transistor (34) through the adjustment of the width/length ratio (Wt/Lt) of the driving thin film transistor so that the luminance of red light emitted from a red organic light emitting diode, the luminance of green light emitted from a green organic light

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emitting diode and the luminance of blue light emitted from a blue light emitting diode are in such a ratio that white light is produced and full coloration is attained (col. 10, line 24 to col. 11, line 45 and from col. 12, line 25 to col. 13, line 15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the modifying the driving current as taught by Troxell in the system of Kondo in order to provide a display image with a full coloration is obtained easily.

Regarding claim 2, Kondo further teaches the driving current (i.e., current from second power source) passes between the drain terminal and the gate terminal of the driving thin film transistor (M2) (col. 6, lines 52-55).

Regarding claim 3, the combination of Kondo and Troxell teaches the luminance of red light emitted by an organic light emitting diode depends on the structure and material forming the organic light emitting diode (from col. 10, line 24 to col. 11, line 45 of Troxell).

Regarding claim 4, the combination of Kondo and Troxell teaches the luminance of green light emitted by an organic light emitting diode depends on the structure and material forming the organic light emitting diode (from col. 10, line 24 to col. 11, line 45 of Troxell).

Regarding claim 5, the combination of Kondo and Troxell teaches the luminance of blue light emitted by an organic light emitting diode depends on the structure and material forming the organic light emitting diode (from col. 10, line 24 to col. 11, line 45 of Troxell).

Regarding claim 6, the combination of Kondo and Troxell teaches the luminance and emission efficiency of red light is proportional to the driving current flowing across unit area of the red organic light emitting diode (col. 10, line 24 to col. 11, line 45 and from col. 12, line 25 to col. 13, line 15).

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Regarding claim 7, the combination of Kondo and Troxell teaches the luminance and emission efficiency of green light is proportional to the driving current flowing across area of the green organic light emitting diode (col. 10, line 24 to col. 11, line 45 and from col. 12, line 25 to col. 13, line 15).

Regarding claim 8, the combination of Kondo and Troxell teaches the luminance and emission efficiency of blue light is proportional to the driving current flowing across unit area of the blue organic light emitting diode (col. 10, line 24 to col. 11, line 45 and from col. 12, line 25 to col. 13, line 15).

Regarding claim 9, Kondo further teaches the source terminal of the driving thin film transistor (M2) is coupled to the positive terminal of the organic light emitting diode (1) (Fig. 1).

Regarding claim 10, Kondo further teaches the drain terminal of the driving thin film transistor (M2) is coupled to a power supply at a first voltage level (7) (col. 6, lines 28-60).

Regarding claim 11, Kondo further teaches the negative terminal of the organic light emitting diode (1) is coupled to a power supply at a second voltage level (6) (col. 6, lines 28-60).

Regarding claim 12, Kondo further teaches each pixel further includes: a thin film transistor switch (11) having a drain terminal, a gate terminal and a source terminal, wherein the drain terminal is coupled to the data voltage (9), the gate terminal is coupled to a scanning voltage (5) and the source terminal is coupled to the gate terminal of the driving thin film transistor (M2); and a capacitor (C1) having a first terminal and a second terminal, wherein the first terminal is coupled to the source terminal and the gate terminal of the driving thin film transistor (M2), and the second terminal is coupled to a power supply at a third voltage level (Vref) (col. 6, lines 28-60).

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3. The prior art made of record and not relied upon is considered to pertinent applicant's disclosure.

Hack et al. (Pub. No.: US 2002/0030647) teaches uniform active matrix OLED.

Sanford et al. (Pub. No.: US 2002/0195968) teaches OLED current drive pixel circuit.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jennifer T. Nguyen** whose telephone number is **703-305-3225**.

The examiner can normally be reached on Mon-Fri from 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reach at **703-305-4709**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks


Washington, DC. 20231

**Or faxed to: 703-872-9306 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

JNguyen  
9/20/2004

  
**REGINA LIANG**  
**PRIMARY EXAMINER**